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 FILE 'CASREACT' ENTERED AT 19:39:18 ON 11 MAR 2008  
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FILE CONTENT:1840 - 9 Mar 2008 VOL 148 ISS 11

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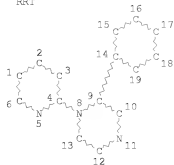
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*   CASREACT now has more than 13.8 million reactions   *
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Some CASREACT records are derived from the ZIG/VINITI database (1974-1999) provided by InfoChem, INPI data prior to 1986, and Biotransformations database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance identification.

-> d que sta l8  
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NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ELEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 37

STEREO ATTRIBUTES: NONE  
 L8 13 SEA FILE-CASREACT SSS FUL L6 ( 30 REACTIONS)

100.0% DONE 30 VERIFIED 30 HIT RXNS 13 DOCS  
 SEARCH TIME: 00.00.01

-> d bib abs ord l13 tot



-> d bib abs ord 114 tot



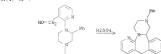
## 114 ABSTRACT OF 7 CLAIMANT COPYRIGHT 2008 ACS on STM

AB 1,3-DIARYL SUBSTITUTED  
 TT Methods for the preparation of mitapipazine intermediates  
 TS Debye, Gerald Wayne, Belmont  
 SA New Pharmaceutical Industries Ltd., Exeter, Devon PHARMACEUTICALS USA, INC.  
 ST PCT Int. Appl., 13 pp.  
 SC OTHER PEXE0  
 SA English  
 PAR 01/1

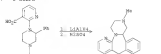
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EP 20020170312	A1 20020102	2001BM-00004340 20020214
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US 20020170301	A1 20020102	2001BM-00004340 20020214

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 PAR 01/1

## RE (4) OF 7



## RE (4) OF 7 - 1.3 DIARYL



## NOTE: 1) no exptl., 2) no exptl.

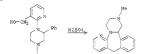
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EP 20020170312	A1 20020102	2001BM-00004340 20020214
W 02/000	AL, AU, AT, BE, BG, BR, CA, CH, CN, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IL, IN, JP, KR, LC, LU, NL, NO, NZ, PL, PT, RU, SE, SI, SK, TR, TW, UA, US, VE, YU, ZA, ZW	
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## RE (1) OF 1



## 114 ABSTRACT OF 7 CLAIMANT COPYRIGHT 2008 ACS on STM (CONTINUED)

## RE (7) OF 7 - 2. DIARYL



## NOTE: 1) no exptl., 2) no exptl.

RE (7) OF 7 - 2. DIARYL  
 NOTE: 1) no exptl., 2) no exptl.

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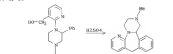
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EP 20020170312	A1 20020102	2001BM-00004340 20020214
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US 20020170311	A1 20020102	2001BM-00004340 20020214
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 SC OTHER PEXE0  
 SA English  
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## RE (7) OF 2



## 114 ANSWER 4 OF 7 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(12) OF 28 - 2 63006



RE(13) OF 28 - 3 63006



RE 1302 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE SUMMARY

## 114 ANSWER 4 OF 7 CASREACT COPYRIGHT 2008 ACS on STM

121 131400 CASREACT

11 Novel synthesis and crystallization of paper-ink ring-containing compounds with an xanthone  
12 Gilead, Glaxo, Johnson & Johnson, Bristol-Myers Squibb  
13 Taro Pharmaceutical Laboratories Ltd., Toronto, New Brunswick, Canada  
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114 ANSWER 1 (67%) CORRECT! COPYRIGHT 2006 ACS ON STM (DOWNSIDE)

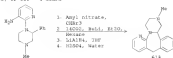
RE(30) OF 114 - 3 STEPS



RE(41) OF 114 - 3 STEPS



RE(55) OF 114 - 4 STEPS



RE(99) OF 114 - 5 STEPS



=> b reg  
 FILE 'REGISTRY' ENTERED AT 19:40:04 ON 11 MAR 2008  
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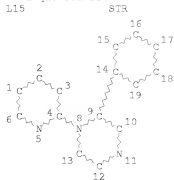
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<http://www.cas.org/support/stngen/stndoc/properties.html>

=> d que sta 117



NODE ATTRIBUTES:  
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 DEFAULT ELEVEL IS LIMITED

GRAPH ATTRIBUTES:  
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 L17 34 SEA FILE-REGISTRY SSS FUL L15

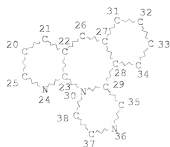
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34 ANSWERS

=> d que sta 120

L18 STR





NODE ATTRIBUTES:  
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100.0% PROCESSED 100374 ITERATIONS  
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131 ANSWERS

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FILE COVERS 1907 - 11 Mar 2008 VOL 148 ISS 11  
 FILE LAST UPDATED: 10 Mar 2008 (20080310/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

-> d bib abs hitrn fhitr 126 tot



-> d bib abs hitstr 128 tot

## 114 ANSWER 1 OF 13 NCMPUS COPYRIGHT 2008 ACS on STM

114 1001-161700 NCMPUS

OR 143133353

115 Preparation of 1-(2-hydroxyethyl-2-pyridyl)-4-methyl-2-phenylpiperazine

116 Chang, Qingwen; Gu, Jinyang; Shi, Hailin

117 Shanghai Institute of Pharmaceutical Industry, Peng, Peng, China

118 Chinese CHOICE

119 Chinese

120 FAN QIN 1

121 PATENT NO. KING DATE APPLICATION NO. DATE

122 CN1001-161700 A 20001119 200101-001119 20011112 <--

123 CASPACT 143133353

124 The title compound (I), an intermediate for the antidepressant mirtazapine,

125 is prepared by reaction of 1-(2-hydroxy-2-pyridyl)-4-methyl-2-phenylpiperazine

126 (II) with dichloroacetic anhydride. Thus, reaction of II with HMDI and HCl in

127 N-methyl-2-pyrrolidone (NMP) at 80°C for 2 h gives (I).

128 10410-53-09, Mirtazapine

129 15, 160 (Preparation, not classified); 1609 (Preparation)

130 Preparation of 1-(2-hydroxyethyl-2-pyridyl)-4-methyl-2-phenylpiperazine

131 10410-53-09 NCMPUS

132 Preparation of 1-(2-pyridyl)-3-(1-benzazepine, 1,2,3,4,10,14b-hexahydro-2-

133 methyl)- (CA INDEX NAME)



134 61330-13-4 347600-55-1

135 AC (Pharmazapine) (ACET (Acetate or acetate))

136 Preparation of 1-(2-hydroxyethyl-2-pyridyl)-4-methyl-2-phenylpiperazine

137 61330-13-4 NCMPUS

138 2-pyridylacetone (1,2,3,4,10,14b-hexahydro-2-methyl)- (CA INDEX NAME)



139 10410-53-09 NCMPUS

140 2-pyridylacetone (1,2,3,4,10,14b-hexahydro-2-methyl)- (CA INDEX NAME)

141 10410-53-09 NCMPUS

## 115 ANSWER 1 OF 13 NCMPUS COPYRIGHT 2008 ACS on STM

(Continued)



## 116 ANSWER 1 OF 13 NCMPUS COPYRIGHT 2008 ACS on STM

(Continued)



117 10410-53-09 NCMPUS

118 2-pyridylacetone (1,2,3,4,10,14b-hexahydro-2-methyl)- (CA INDEX NAME)



## 117 ANSWER 1 OF 13 NCMPUS COPYRIGHT 2008 ACS on STM

117 1001-161700 NCMPUS

OR 143133353

118 Preparation of mirtazapine antidepressant

119 Chang, Qingwen; Gu, Jinyang; Shi, Hailin; Li, Hailin

120 Shanghai Institute of Pharmaceutical Industry, Peng, Peng, China

121 Chinese CHOICE

122 Chinese

123 FAN QIN 1

124 PATENT NO. KING DATE APPLICATION NO. DATE

125 CN1001-161700 A 20001119 200101-001119 20011112 <--

126 CASPACT 143133353

127 The title compound (I), an intermediate for the antidepressant mirtazapine,

128 is prepared by reaction of 1-(2-hydroxyethyl-2-pyridyl)-4-methyl-2-phenylpiperazine

129 (II) with dichloroacetic anhydride. Thus, reaction of II with HMDI and HCl in

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136 methyl)- (CA INDEX NAME)



137 61330-13-4 347600-55-1

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140 61330-13-4 NCMPUS

141 2-pyridylacetone (1,2,3,4,10,14b-hexahydro-2-methyl)- (CA INDEX NAME)

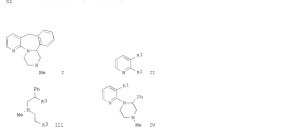


142 10410-53-09 NCMPUS

143 2-pyridylacetone (1,2,3,4,10,14b-hexahydro-2-methyl)- (CA INDEX NAME)

128 ANS008 2 OF 12 HCAPLAD COEFFICIENT 5498 ACS OR ETH (CO-GLASS  
 RI: PNC (Nucleoplastic activity), SBR (synthetic preparations),  
 THU (Therapeutic use), BIO (Biological study), PREP (Preparation,  
 usage (uses)  
 [prep. and crystn. of amorphous water adduct]  
 341512-56-3 HCAPLAD  
 Pyrazolone 3, 5-[pyrido [2,3-b] [1,2]benzoxepine, 1, 2, 8, 10, 14b-hexa-  
 methyl-, hydrate (9CI) (CA 37985 8ANR)


L18 ANSARCH 1 OF 10CAPLIFE COPYRIGHT 2009 ACS on STM  
 AN 2012/282146 CAPLIFE  
 OR 1341304301  
 T1 Novel aglycosyl and crystallization of pyrimidine ring-containing  
 compounds such as nucleosides  
 IN Ginter, Claude; Labernier, Amel; Finkelstein, Rene  
 DA Israel  
 OJ J. Pharm. Appl. Publ., 9 pp., Cont.-is-part of J.A. Ser. No. 552,885  
 COIN EPO2009  
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[illegible]

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124 ASSURED 2 OF 12 HCAPUS6 COPYRIGHT 2008 ACS on STN (Continued)

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NAME 85450-12-9 SCAPLER  
CNS Pyrazino[2,1-a]pyrido[2,3-c][2]benzazepine, 1,2,3,4,10,14b-hexahydro-2-methyl-, ICA INDEX NAME
```


  
 12 6.1337-18.0  
 XZ Ref (Sheet1); NACT (Reaction or reagent)  
 (preparation and crystallization of polymeric ring-containing compounds)  
 (category)  
 6.1337-18.0; H05G115  
 OR 6.1337-18.0; H05G115  
 NAME:

128 341512-1 OF ICAPALAS COEFFICIENT 341512 ACB ON ETH (COEGLAS  
 81. 8AC (Pharmacological activity). 5AP (Synthetic preparations).  
 TRU (Therapeutic use). BIOI (Biological study). PURP (Preparation  
 , 10000 (Dose).  
 (Prepn. and crystn. of derivatives water adduct)  
 88 341512-56-3 ICAPALAS  
 CN Pyrazolone 3, 3-[pyrido 2,3-b] [2] benzoxepine, 1, 2, 8, 10, 14b-hexa-  
 methyl-, hydrate (9CI) (CA 370624 54000)



IT 61137-89-12 61138-13-4P  
 RL IMF (Industrial manufacture); FCT (Research); SPW (Synthetic preparation); IMF (Preparation); FCT (Research or design);  
 (Preparation and crystallization of piperazine ring-containing compds., such as  
 (Preparation)

```
## 61337-89-1 ECAPLUG
```



HR 61228-12-4 KCAFLAS

IT 85450-52-89, Nixtamazine  
 RL: DMF (Industrial manufacture); SYN (Synthetic preparation); TSE (Therapeutic use); BLOL (Biological study); PREP (Preparation); USES (Uses)  
 investigation and crystallization of nixtamazine virus-containing comoids, such as

128 ANSWER 4 OF 12 ESCAPE COPYRIGHT 2008 ACS 02 57

AN 2802469877 (CAPLAW)  
 SN 137216862  
 TT Methods for the preparation of mirtazapine intermediates  
 TX Weisger, Leonid; Wiesel, Raimund  
 PA Teva Pharmaceutical Industries Ltd., Israel; Teva Pharmaceuticals USA,

ST	UNIT	INSTR.	APP.	13 PP.	CODE	REMARKS
02	84040				000000	
03	84040				000000	
04	84040				000000	
05	84040				000000	
06	84040				000000	
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the propionamide, 1-(2-cyano-2-pyridyl)-4-methyl-2-phenylpiperazine dihydrate (I) and other mirtazapine intermediates are described. These compounds are particularly useful in the preparation of mirtazapine. Thus, 1-(2-cyano-2-pyridyl)-4-methyl-2-phenylpiperazine was hydrolyzed with aqueous NaOH, neutralized with HCl and the precipitate washed with water to give I when

crystal structure is reported.

17 457601-15-19, 1-(3-Carboxy-2-pyridyl)-4-methyl-2-phenylpiperazine

dihydrate  
 EI: IMF (Industrial manufacture), WPP (Properties); TAT (Reactant);  
 SH (Synthetic preparation), PWP (Preparation), RACI (Reactant or  
 reagent)  
 (Preparation of 1-(2-Oxocyclo-2-propyl)-1-methyl-2-phenylmethylaziridine)

3-Pyridinecarboxylic acid, 2-(4-methyl-2-phenyl-1-piperazinyl)-, dihyd  
(SCL) (CA INDEX NAME)



17 61337-86-1P, 1-(3-Hydroxymethyl-2-pyridyl)-4-methyl-2-phenylpiperazine 61338-13-4P, 1-(3-Carboxy-2-pyridyl)-4-methyl-2-phenylpiperazine  
 NL IMP (Industrial manufacture) PCZ (Pacostat), ZPH (Zephatoin preparation), ZPHD (Zephatoin), PACZ (Pacostat or coagent)  
 Preparation of 1-(3-carboxy-2-pyridyl)-4-methyl-2-phenylpiperazine  
 91818058 08 08 1016060606 000 016141000000

114 ANSWER 4 OF 12 HEADLINES COPYRIGHT 2008 ACS on STM (Continued)  
 61317-84-1 HEADLINES  
 3-Pyridinemethanol, 2-(4-methyl-2-phenyl-1-piperazinyl)- (CA INDEX NAME)



61318-13-4 HEADLINES  
 2-Pyridinemethanylethylidene succinyl-2-(4-methyl-2-phenyl-1-piperazinyl)- (CA INDEX NAME)



61319-51-02, Mirtazapine  
 N, N-Dipropylmethylmirtazapine, NMP (Physical)  
 Preparation: MHP (Preparation)  
 Preparation of 1-(3-methoxy-2-pyridyl)-4-methyl-1-phenylpiperazine  
 ethylsuccinate as an intermediate for mirtazapine  
 61319-51-0 HEADLINES  
 2-Pyridine[1,2-a]pyridine(2,3-b) (1)benzazepine, 1,2,3,4,10,10a-hexahydro-2-methyl- (CA INDEX NAME)



61317-84-0, 1-[3-(2-methyl-2-pyridinyl)-4-methyl-1-phenylpiperazine  
 NMP (Physical); NMP (Physical); NMP (Physical)  
 Preparation of 1-(3-methoxy-2-pyridyl)-4-methyl-1-phenylpiperazine  
 ethylsuccinate as an intermediate for mirtazapine  
 61317-84-0 HEADLINES  
 3-Pyridinemethanotriethyl, 2-(4-methyl-2-phenyl-1-piperazinyl)- (CA INDEX NAME)

115 ANSWER 5 OF 12 HEADLINES COPYRIGHT 2008 ACS on STM  
 61318-13-4 HEADLINES  
 2-Pyridinemethanylethylidene succinyl-2-(4-methyl-2-phenyl-1-piperazinyl)- (CA INDEX NAME)

115 Process for the manufacture of anhydrous, solvent-free mirtazapine crystals  
 115a Smith, Chikara, Yoshikawa, Katsuhiko, Iishi, Mitsuhiko  
 Smith Fine Chemicals Co., Ltd., Japan  
 115b Int. Pat. App., 10 pp.  
 115c Chem. Abstr. 2007  
 115d Patent

115d Patent

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115 ANSWER 4 OF 12 HEADLINES COPYRIGHT 2008 ACS on STM (Continued)



RE-ENT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITED REFERENCES AVAILABLE IN THE 46 NUMBER

115 ANSWER 5 OF 12 HEADLINES COPYRIGHT 2008 ACS on STM (Continued)



```
methanol (yield 76-78%).
3436-55-1P
SI, IUP (Industrial manufacture), ECT (EcoChem), GEN (Synthetic
preparation), DRMP (Preparation), RACT (Research or Reagent)
[intermediate, preparation of pyridinemethanol compound as intermediate for
workup]
SI 3436-55-1P, DRMP-400
```

114 ABSTRACT 1 OF 13 NCMPALS COPYRIGHT 2008 ACS on STM (Continued)

CN 3-Pyridinethiopyranol acid, 2-(4-methyl-2-phenyl-1-piperonyl)-, potassium salt (NCT) (CA INDEX NAME)



IT 5137-55-EP

RI: DMF (Industrial manufacture); NCT (Reactant); BPM (Synthetic preparation); DMFP (Preparation); NCT (Reactant or reagent);  
 Preparation of pyridinethiopyranol compound as intermediate for miltazapine

CN 4137-55-3 NCMPALS

CN 3-Pyridinethiopyranol, 2-(4-methyl-2-phenyl-1-piperonyl)- (CA INDEX NAME)



IT 5140-55-EP, Miltazapine

RI: DMF (Industrial manufacture); BPM (Synthetic preparation); DMFP (Preparation);  
 Preparation of pyridinethiopyranol compound as intermediate for miltazapine

CN 5140-55-4 NCMPALS

CN 3-Pyridinethiopyranol, 2-(4-methyl-2-phenyl-1-piperonyl)-, ethanediolate (1:1) (CA INDEX NAME)



IT 5141-55-7

RI: NCT (Reactant); NACT (Reactant or reagent);  
 Starting material; preparation of pyridinethiopyranol compound as intermediate for miltazapine

CN 5141-55-7 NCMPALS

CN 3-Pyridinethiopyranol, 2-(4-methyl-2-phenyl-1-piperonyl)-, ethanediolate (1:1) (CA INDEX NAME)



CN 4137-55-0

CNP CIT B14 B4

115 ABSTRACT 1 OF 13 NCMPALS COPYRIGHT 2008 ACS on STM (Continued)

CN 3-Pyridinethiopyranol acid, 2-(4-methyl-2-phenyl-1-piperonyl)-, potassium salt (NCT) (CA INDEX NAME)



CN 2

CNP 144-63-7

CNP CIT B2 B4



RE: NCT 15

THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RECORD

116 ABSTRACT 8 OF 13 NCMPALS COPYRIGHT 2008 ACS on STM

CN 5141-55-7 NCMPALS

CN 5141-55-7

Process for the preparation of a pyridinethiopyranol compound

CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

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CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

CN 14161; B1; H01N; H01N; H01N

117 ABSTRACT 8 OF 13 NCMPALS COPYRIGHT 2008 ACS on STM (Continued)

CN 5141-55-7 NCMPALS

CN 3-Pyridinethiopyranol acid, 2-(4-methyl-2-phenyl-1-piperonyl)-, potassium salt (NCT) (CA INDEX NAME)



IT 5137-55-EP

RI: DMF (Industrial manufacture); NCT (Reactant); BPM (Synthetic preparation); DMFP (Preparation);  
 Preparation of pyridinethiopyranol compound as intermediate for miltazapine

CN 4137-55-1 NCMPALS

CN 3-Pyridinethiopyranol, 2-(4-methyl-2-phenyl-1-piperonyl)- (CA INDEX NAME)



IT 5140-55-EP, Miltazapine

RI: DMF (Industrial manufacture); BPM (Synthetic preparation); DMFP (Preparation);  
 Preparation of pyridinethiopyranol compound as intermediate for miltazapine

CN 5140-55-8 NCMPALS

CN 3-Pyridinethiopyranol, 2-(4-methyl-2-phenyl-1-piperonyl)-, ethanediolate (1:1) (CA INDEX NAME)



IT 5141-55-7

RI: NCT (Reactant); NACT (Reactant or reagent);  
 Starting material; preparation of pyridinethiopyranol compound as intermediate for miltazapine

CN 5141-55-7 NCMPALS

CN 3-Pyridinethiopyranol, 2-(4-methyl-2-phenyl-1-piperonyl)-, ethanediolate (1:1) (CA INDEX NAME)



CN 4137-55-0

CNP CIT B14 B4



RI: DMF (Industrial manufacture); NCT (Reactant); BPM (Synthetic preparation); DMFP (Preparation);  
 Preparation of pyridinethiopyranol compound as intermediate for miltazapine

CN 5141-55-7 NCMPALS

CN 3-Pyridinethiopyranol, 2-(4-methyl-2-phenyl-1-piperonyl)-, ethanediolate (1:1) (CA INDEX NAME)

CN 5141-55-7

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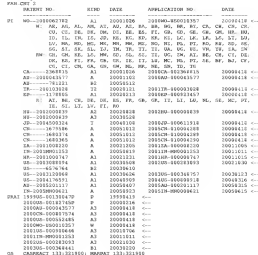
CN 5141-55-7

CN 5141-55-7





128 ANNEXE 11 DE 12 RECAPLED COPYRIGHT 2009 ACT OR BY



CONCLUSIONS

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OS      CASPKACT 133:321960; HSPFAT 123:321980
```



128 ASSEMBLY 11 OF 13 SCALING COPYRIGHT 2008 ACS on STN (Continued)

HN 337015-51-7 INAPLAX  
 CN Piperazine, 1-[3-(chloromethyl)-2-pyridinyl]-4-methyl-2-pyrenyl- (CA 1306)  
 NAME



RX 212081-92-8 HCAPLOS  
 CN Piperazine, 1-[3-(bromomethyl)-2-pyrrolidinyl]-4-methyl-2-phenyl- (CA INDEX



IT	61337-86-0
	RL, RCT (Poast (novel syst mirtazapine
RS	61337-86-0 RC
CM	3-Pyridinecarb N(=O)2

THEORY  
ALL C

RE CNT 2 THERE ARE 2 CUTOFF PREFERENCES AVAILABLE FOR THIS PRODUCT  
ALL CUTOFFS AVAILABLE IN THE RE HODWAY

104 ANKOR 10 OF 104PAGES COPYRIGHT 2008 ACS ON STE  
 AN 1390133001 HOAKLES  
 ON 111133901  
 IT The synthesis of Org 3770 labeled with bromine, carbon-14 and carbon-14  
 AN Hesperian, Franz M. Van Nooy, Fona A. M. Sperling, Eric G. H.,  
 Mackay, Joseph H.  
 CS Lab. Chem. Group, Organon Int. NV, OS, 5140 BE, Mech.  
 NO Journal of Labeled Compounds and Radiopharmaceuticals (1989),  
 27(9), 2055-68  
 CUSP JLM04; ISSN: 0168-8083  
 DT Journal  
 LA English  
 CS CASPARC 111133901  
 DT

[illegible]

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12 135770-82-8P 135947-26-2D
   AL ACT (Reactant); SPS (Synthetic preparation); RXEP
   (Preparation); RACT (Reactant or reagent);
   (preparation and cyclization of)
NS 135770-82-8 HCAPLUS
CS 3-Pyridinemethanol, 2-[4-methyl-2-(phenyl-13C6)-1-piperidinyl]- (RCT) (CA
   INDEX NAME)

```

124 ANSWER 12 OF 13 EXAMPLE6 COPYRIGHT 2008 ACG on STM (Continued)



12	125967-25-19	NS-FACT (Neostant); SPN (Synthetic preparation); DNEP (Preparation); NACT (Neostant or reagent) (preparation and reduction of)
NS	125967-25-1	ECAPLUS
CM		2-Pyridinecarboxylic-2H acid, 2-(4-methyl-2-phenyl-1-piperazinyl)- (NCT) (CA INDEX NAME)



12	109133-29-1P 120770-83-4P 125967-27-2P 125967-28-2P
	PL 500 (Synthetic preparation); PREP (Preparation) (preparation of)
NS	109133-29-1 HCAPLUG
CS	Pyrazine[3,1-a]pyrido[2,3-b][2,1-benzoxepine-10-t, 1,2,3,4,10,14b-hexahydro-2-methyl- (9CI) (CA INDEX NAME)



CS Pyrazine[2,1]-alpyrido[2,3-b][1]benzopyrime-10a, 11, 12, 13, 14, 14a-130a, 1,2,3,4,10,14-hexahydro-2-methyl- (WZ) (CA INDEX NAME)

128 ANSWER 12 OF 12 RECAPED COPYRIGHT 2009 ACU OR BTH (Continued)

CS 3-Pyridinemethanol-*n*-14C, 2-(4-methyl-2-phenyl-3-piperazinyl)- (9CE)  
(CA [CODE NAME])



TX	121563-22-9P	KL: RCT (Reactant); SPH (Synthetic preparation); PNEP (Preparation); NACT (Reactant or reagent) (preparation and diazotization-bromination of)
DS	121563-22-8	HCAPLAIN
CS	3-Pyridinamine, 2-(4-methyl-2-phenyl-1-piperazinyl)-	(CA INDEX NAME)



TX	123963-23-3P	ML: MCT (Reactant); SPH (Synthetic preparation); PREP (Preparation); PACT (Reactant or reagent); (Preparation and hydrogenation of)
RX	123963-23-3	NOALIUS
CN	Pipecasine, 4-methyl-5-(3-nitro-2-pyridinyl)-2-phenyl-	(CA INDEX NAME)

128 ANSWER 12 OF 13 NCAPLES COPYRIGHT 2004 AGS on 578 (Continued)

RXN 115963-27-2 NCAPLASH  
 CN Pyrazolo[2,3-a]pyrido[1,3-c][2]benzazepine-10-14C, 1,2,3,4,10,14b-hexahydro-2-methyl- (SCE) (CA INDEX NAME)



CU Pyracidol[2,3-a]pyrrol[2,3-c][1,2,3,4,10,14b-hexahydro-2-methyl- (9CI) (CA INDEX NAME)



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● HCl

RD 61337-76-5 KOPULES  
CN Pyrazino[2,1-a]pyridine(2,3-c)[1]benzazepine-1,2,3,4,10,14-hexahydro-2-methyl- (CA INDEX NAME)



RD 61337-84-8 KOPULES  
CN Pyrazino[2,1-a]pyridine(2,3-c)[1]benzazepine-8-bromo-1,2,3,4,10,14-benzodipyrro-2-methyl- (CA INDEX NAME)



RD 61337-81-8 KOPULES  
CN Pyrazino[2,1-a]pyridine(2,3-c)[1]benzazepine-1,2,3,4,10,14-hexahydro-2-methyl- (CA INDEX NAME)

Absolute stereochemistry Rotation (+)



RD 61340-24-1 KOPULES

118 ANWERS 13 OF 13 KOPULES COPYRIGHT 2009 ACS OR STM (Download)  
CN Pyrazino[2,1-a]pyridine(2,3-c)[1]benzazepine-1,2,3,4,10,14-hexahydro-2-methyl- dihydrochloride (HCl) (CA INDEX NAME)



● HCl

RD 61384-37-3 KOPULES  
CN Pyrazino[2,1-a]pyridine(2,3-c)[1]benzazepine-1,2,3,4,10,14-hexahydro-2-methyl- (CA INDEX NAME)

Absolute stereochemistry Rotation (-)



RD 61400-12-8 KOPULES  
CN Pyrazino[2,1-a]pyridine(2,3-c)[1]benzazepine-1,2,3,4,10,14-hexahydro-2-methyl- (CA INDEX NAME)



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(FILE 'HCAPLUS' ENTERED AT 18:14:44 ON 11 MAR 2008)
  DEL HIS Y

L1  FILE 'HCAPLUS' ENTERED AT 19:20:44 ON 11 MAR 2008
      1 US20060229300/PN

      FILE 'REGISTRY' ENTERED AT 19:20:51 ON 11 MAR 2008

      FILE 'HCAPLUS' ENTERED AT 19:20:51 ON 11 MAR 2008
L2      TRA L1 1- RN :          3 TERMS

      FILE 'REGISTRY' ENTERED AT 19:20:51 ON 11 MAR 2008
L3      3 SEA L2

      FILE 'CASREACT' ENTERED AT 19:21:17 ON 11 MAR 2008
L4          STR
L5          STR L4
L6          STR L5
L7          0 L6
L8          13 L6 FULL
L9          8 L8 AND (PD<=20030710 OR AD<=20030710 OR PRD<=20030710)
L10         4 L8 AND PD<=20020710
L11         8 L9-10
L12         5 L8 NOT L11
              SEL AN 2 L11
L13         1 E291 AND L11
L14         7 L11 NOT L13

      FILE 'REGISTRY' ENTERED AT 19:31:41 ON 11 MAR 2008
L15          STR L6
L16          0 L15
L17          34 L15 FULL
              SAV TEM J193C1REG/A L17

      FILE 'CASREACT' ENTERED AT 19:33:06 ON 11 MAR 2008
              SAV TEM J193C1CASRE/A L8

      FILE 'REGISTRY' ENTERED AT 19:33:13 ON 11 MAR 2008
L18          STR L6
L19          4 L18
L20          131 L18 FULL
              SAV TEM J193C1REG2/A L20

      FILE 'HCAPLUS' ENTERED AT 19:34:04 ON 11 MAR 2008
L21          33 L17
L22          836 L20
L23          23 L21 (L) RACT*NT/RL
L24          56 L22 (L) (PREP*NT OR FORM*NT)/RL
L25          22 L23 AND L24
L26          1 L25 AND L1
L27          21 L25 NOT L26
L28          13 L27 AND (PD<=20030710 OR AD<=20030710 OR PRD<=20030710)
L29          8 L27 NOT L28

      FILE 'HCAOLD' ENTERED AT 19:38:23 ON 11 MAR 2008
L30          0 L17 AND L20

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